

Appl. No. : 10/601,037  
Filed : June 19, 2003

### REMARKS

Claims 15-24 and 27-42 are pending in the present application. Claims 15 and 42 are amended herein to indicate that the recited barrier layer is not a nanolaminate structure. In paragraph [0023] the specification indicates that "in one embodiment the barrier layer is a nanolaminate structure (i.e., one with multiple layers of different materials, each layer having a thickness in the order of nanometers...)" If alternative elements are positively recited in the specification, they may be explicitly excluded in the claims. See MPEP §2173.05(i), citing *In re Johnson*, 558 F.2d 1008, 1019, 194 USPQ 187, 196 (CCPA 1977). Applicants submit that the amendments are clear and that the claims as amended are in compliance with the requirements of 35 U.S.C. §112.

New claims 43 and 44 have been added and indicate that the barrier layer recited in Claims 1 and 42, respectively, can comprise a ternary complex. Support for these claims can be found, for example, in paragraph [0023] of the specification.

No new matter is added by the present amendments or new claims.

#### Claim rejections under 35 U.S.C. §103(a)

The pending Claims were rejected as obvious over the combination of Bai (US 6,166,417) and Elers (WO 01/29893). In particular, the Examiner found that Bai discloses depositing a gate dielectric layer over first and second regions of a substrate, depositing a barrier layer over the dielectric layer and forming first and second gate electrode layers over the dielectric layer. While Bai does not disclose depositing a barrier layer by ALD as recited in independent Claims 1 and 42, the Examiner found that it would have been obvious to one of ordinary skill in the art to "form the barrier layer of Bai such that it is a nanolaminate deposited by ALD because Elers teaches that a nanolaminate structure provides enhanced diffusion barrier properties and Elers teaches that ALD is the way in which such a structure is created."

Applicants continue to maintain that one of skill in the art would not have selected ALD over other available methods for depositing a barrier layer in the context of forming gate electrodes for the reasons presented in the Response filed on January 25, 2005. Nevertheless, to facilitate prosecution independent Claims 1 and 42 have been amended herein to indicate that the barrier layers are not nanolaminate structures. As the Examiner has provided no teaching or

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suggestion to deposit a barrier layer that is not a nanolaminate by ALD, Applicants submit that the current rejections should be withdrawn.

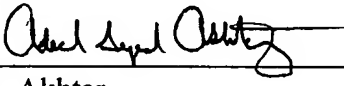
Conclusion

For the reasons presented above, Applicants submit that the present application is in condition for allowance and respectfully request the same. If any issues remain, the Examiner is cordially invited to contact Applicants' representative at the number provided below in order to resolve such issues promptly. Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: June 2, 2005

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